



Long-Term Stewardship Assessment Report

Empire Diversified Energy LLC (Formerly Koppers, Inc.)

EPA ID #: WVD004336749

Follansbee, WV 26037

RCRIS CODE: CA88 (P2)

Completed by: Kenan Cetin, WVDEP

Assessment Visit Date: **October 23, 2025** Assessment Report Date: **December 31, 2025**

Introduction: In EPA Region 3 and its RCRA-authorized states, a Long-Term Stewardship (LTS) or “LTS Assessment Visit” is a site inspection that combines a review of historical records with an on-site evaluation to confirm that selected remedies remain in place and functioning as intended. These visits assess whether a remediated facility continues to meet environmental protection standards by verifying that engineering controls (ECs) are properly maintained and that institutional controls (ICs) remain in effect. The LTS program periodically evaluates the long-term performance of these remedies and ensures that any required controls continue to protect human health and the environment. It also serves as a mechanism for keeping the community informed about the status of facilities addressed under the RCRA Hazardous Waste Cleanup (Corrective Action) Program.

Facility Background: The former Koppers Industries Inc. facility in Follansbee—now owned and operated by Empire Diversified Energy LLC—was a coal tar processing plant situated on a 34-acre property just north of the city of Follansbee in Brooke County, West Virginia (Facility). The Facility is bordered on the north, south, and east by a coke manufacturing facility that was formerly owned by Wheeling-Pittsburgh Steel Corporation, subsequently became part of Severstal Wheeling Inc., and was later acquired by Koppers Inc..

Originally constructed in 1914 by the American Tar Products Company, the Facility operated as a coal-tar distillation plant producing creosote, road tar, and various pitches. Over more than a century of coal tar processing, the Facility has undergone multiple ownership and name changes and is currently owned and operated by Empire Diversified Energy LLC.

In September 1990, an Administrative Order on Consent (Order) was issued under 42 U.S.C. § 6928(h) of RCRA to Beazer East, Inc., a former owner of the Facility. The Order required Beazer East to conduct interim measures, a RCRA facility investigation, and a corrective measures study. For clarity, references to “Koppers” in this document pertain to the Site, Facility, or Facility owner/operator at the time of Koppers’ involvement, while “Beazer East” refers to the party responsible for performing the work required under the Order.

Current Site Status: In March 2011, EPA issued the Final Decision and Response to Comments (FDRTC) for the Koppers site. The final remedy comprised of four components: soils, sediment, groundwater and Facility-wide Institutional Controls (ICs). The soil remedy requires compliance with and maintenance of ICs. The sediment remedy consists of dredging and capping. The groundwater

remedy consists of continued operation of the perched groundwater collection system, expansion of the interim dense non-aqueous phase liquid (DNAPL) recovery system, and compliance with and maintenance of ICs.

The engineering control and compliance monitoring elements of final remedy are implemented through a Corrective Measures Implementation Administrative Order on Consent (CMI Order) between Beazer East and EPA, dated September 29, 2011. Facility-wide ICs are implemented via a Uniform Environmental Covenants Act (UECA) Environmental Covenant between Koppers, Beazer East and EPA dated February 14, 2017.

Following the curtailment of operations and decommissioning in 2018–2019, the property was purchased in February 2020 by Petro Empire Liquids and Storage, LLC (a subsidiary of Empire Diversified Energy, Inc.). Empire is currently transforming the site into an integrated energy and logistics terminal on the Ohio River. To date, redevelopment efforts include the construction of a pyrolysis recycling plant, expansion of multi-modal barge facilities, and the early-stage development of an anaerobic digester.

Long-Term Stewardship Site Visit: On October 23, 2025, WVDEP conducted an LTS assessment site visit with representatives and contractors of the legacy responsible party Beazer East and the representatives of the current owner Empire to discuss and assess the status of the implemented remedies at the site. This is the first LTS visit to the site since the April 27, 2018 visit which was led by EPA personnel.

The attendees were:

Name	Organization	Email Address
Kenan Cetin	West Virginia Dept. of Env. Protection (WVDEP)	Kenan.Cetin@wv.gov
Devin Fisher	Three Rivers Management, Inc. (As an Agent of Beazer East)	Devin.Fisher@trmi.biz
Josh Luther	Field and Technical Services, LLC	JLuther@f-ts.com
Chip Fenske	Empire Diversified Energy, Inc.	CFenske@empirede.com
Tom Diserio	Empire Diversified Energy, Inc.	TDiserio@empirede.com

Institutional Controls (ICs) Status:

The February 2017 Environmental Covenant (EC) serves as the primary mechanism and enforcement method/tool for implementing and enforcing institutional controls required under the Final Remedy Decision. In addition, 2014 Materials Management Plan referenced in the EC, along with the Health and Safety Plans/Program, and worker notifications described in the CMI Design Report, approved by EPA in 2015, have been implemented to limit potential human exposure to site COCs. The following ICs apply to the entire Facility, shown on **Figure 1:**

Land Use Restriction: The Property shall not be used as “residential” property, as that term is defined in W.Va. Code §22-22-2(bb). The absence of residential structures or uses of the site was confirmed during

the visit. The Property is secured with fencing, a gateway and guardhouse. The current owner **Empire** continues to implement the required ICs and is in compliance with land use restrictions.

Groundwater Use Restriction: Groundwater at the Property shall not be used for potable purposes or for any uses that would result in direct contact or created new or additional risks to human health or the environment. Groundwater extraction for monitoring or remediation is permitted. The facility is connected to a public water supply and there were no evidence of use of groundwater at the time of the visit.

Materials Management Plan: Any construction activity, such as excavation, drilling, penetration or any other subsurface disturbance, must be conducted by a contractors who are informed and trained about the releases and potential exposure to contaminants known to exist at the site. All such work must follow a site-specific Health and Safety Plan and the December 2014 Materials Management Plan approved by EPA. Existing surface covers must be maintained over impacted areas to minimize surface water infiltration and prevent direct contact with soils. During the Facility tour no signs of earth-moving activities were observed and most asphalt or concrete paved surfaces were intact. As tanks and/or buildings are demolished, the current owner Empire is replacing the surface cover at the footprint of such structures.

Ohio River Construction: Any construction, excavation, or placement of materials in, over, or under the Ohio River at or adjacent to the Property requires authorization from the U.S. Army Corps of Engineers under the Rivers and Harbors Act of 1899, 33 U.S.C. §403. No such construction activities were observed during the site assessment.

Engineering Controls (ICs) Status: The engineering control and compliance monitoring elements of final remedy are implemented through the September 2011 CMI Order between Beazer East and EPA at the site.

DNAPL Recovery System: During the last reporting period (January through June 2025), two (2) Dense Non-Aqueous Phase Liquid (DNAPL) recovery wells (R-225D, R-401D) were operated daily, cycling on and off throughout each day to maximize DNAPL recovery in groundwater. Recovery Well R-225D has been in operation since April 2000 and recovered approximately 100 gallons of DNAPL per week during the first half of 2025. The recovery rate at this well has decreased significantly over the lifetime of the system, indicating that the size of the productive DNAPL pool has diminished over time.

The system was expanded in 2016 with the installation of Well R-401. In 2024, this well recovered an average of approximately 6 gallons of DNAPL per week. To date, the combined recovery system has removed a total of approximately 133,050 gallons of DNAPL, most of which have come from recovery well R-225D. Recovered DNAPL is routed to an on-site temporary storage tank prior to off-site transport and disposal.

Active DNAPL recovery is expected to continue for the foreseeable future until productive DNAPL pools are further depleted, at which point Monitored Natural Attenuation (MNA) may become the primary element of remediation.

Perched Groundwater Recovery System: The perched groundwater recovery system was installed between 1984 and 1986 to prevent groundwater containing coal tar related constituents from discharging

to seeps along the adjacent Mountain State coal pits on the Eastern edge of the Facility and to the Ohio River embankment on the western edge. In 2024, four (4) recovery wells, RW-1, RW-2, RW-4 and RW-5, operated continuously with a combined extraction rate of approximately 6.6 gallons per minute, extracting a combined total of 3.5 million gallons of groundwater. Captured water is directed to and treated by the groundwater remediation system groundwater treatment plant.

Until 2021, water produced by the perched system was treated by the former Koppers Plant's wastewater treatment plant. With the approaching shutdown of the operations of Koppers wastewater treatment plant, Beazer installed an independently operated standalone groundwater treatment system, that was constructed starting in September 2020 and completed on April 14, 2021. The modifications to the groundwater recovery system included the groundwater treatment system components and trailer in which those components are housed, new conveyance piping (mostly below ground) from the recovery wells to the groundwater treatment system, new discharge piping from the treatment system to the outfall, and a new outfall structure. Groundwater treatment was switched over from the previous system to the Beazer's system and brought online on May 6, 2021. Beazer obtained a National Pollutant Discharge Elimination System permit (Permit No. WV0113727), effective beginning on May 31, 2018, for discharge of treated groundwater to the permitted outfall on the Ohio River. A Permit Modification Application for Permit WVG910094-A, which allowed for the installation of an AST-244 Air Stripper to Groundwater Remediation Treatment System, was submitted on November 21, 2022 and subsequently approved on November 30, 2022.

On December 7, 2022, the West Virginia Department of Environmental Protection (WVDEP) issued an Air Permit Applicability Determination in which the WVDEP noted that a permit is not required for the groundwater treatment system air stripper.

The embankments of the Ohio River (to the west) and the embankments of the former Mountain States Carbon Facility coal pits (to the east) are inspected weekly for evidence of seeps or sheens. No sheen or seeps have been reported or observed near recovery wells and associated trenches since 2013.

Ohio River Sediment Cap: A sediment cap was completed in 2012 to address surface sediments containing more than 100 milligrams per kilograms of polycyclic aromatic hydrocarbons (PAHs) and to mitigate intermittent sheens that have appeared on the Ohio River's surface adjacent to the Facility. To evaluate the effectiveness of the remedy, a bathymetric survey was performed in July 2024, and compared to the 2019 bathymetric survey data. The comparison showed no evidence of significant scouring or deposition within the capped area and the cap was therefore determined to remain intact and function as designed.

Sheen monitoring has been conducted annually in accordance with the approved 2013 CMI Design Report. The most recent sheen surveys was performed September 2024. The 2024 sheen survey was performed concurrently with the bathymetric survey so that sheen monitoring aligns with the 5-year bathymetric survey cycle.

Overall, the bathymetric survey results indicate that the sediment cap remains in essentially the same condition as at the time of installation, with no significant scouring or deposition observed. In addition, based on several sheen surveys, the cap continues to prevent sheen generation via ebullition from within the cap footprint.

Groundwater Compliance Monitoring: Semi-annual post-closure groundwater monitoring is conducted around the former aeration basins in accordance with Module IV Section C-8 of the RCRA Part B Post-Closure (Permit No. WVR 000 514 471), reissued on December 14, 2018. Under the updated Permit (Module IV Sections C-3 and C-8), sampling and reporting frequency was reduced to once per year beginning in 2019.

The aeration basins have been closed, are now concrete-lined and covered and enclosed in a security fence with appropriate signage. The groundwater monitoring network consist of ten (10) wells (R-208S, R-208D, R-216S, R-216D, R-218S, R-218D, R-222S, R-222D, R-222D, R-308 and R-313) that monitor shallow alluvial, deeper alluvial and bedrock water-bearing zones around this regulated unit. Groundwater generally flows from east to west toward the Ohio River.

Concentrations of the permit-defined constituents, **benzo(a)anthracene** and **benzo(a)pyrene**, have remained relatively low over the past 5 years. In some cases, concentrations in samples from upgradient monitoring wells were higher than those observed in downgradient wells. Based on a Mann-Kendall statistical test, recent groundwater concentrations have no trend or are stable.

Overall, the monitoring results support that the closed RCRA unit continues to function as intended to protect groundwater quality.

Reporting Requirements/Compliance: Pursuant to the CMI Order, Beazer East was required to submit semi-annual progress reports and 5-year assessment reports. The WVDEP & EPA (“Agencies”) have recently approved several revisions to Beazer’s reporting approach: 1) Annual CMI Assessment Reports and CMI 5-year Review Report replace the semi-annual reports; 2) Annual CMI Reports will continue to cover a full calendar year and will be submitted during the first quarter of the following; 3) The next CMI 5-year review report will be submitted in 2027; and 4) Annual sheen monitoring and bathymetric survey will occur in the same year on a 5-year cycle, with the next set of events to planned for 2029.

Financial Assurance: The RCRAinfo system currently notes that financial assurance is not required for this site. The previous LTS assessment report for the site noted that Beazer East has satisfied all financial assurance requirements. Based on these, it does appear that FA is no longer required.

Mapping: The mapping of the Facility is complete. The EPA Facility website map is accurate and the website includes a geospatial PDF map showing surveyed boundaries of all the use restriction areas.

Conclusions and Recommendations: The assessment identified no deficiencies in the implementation of institutional or engineering controls. The respondent (Beazer) and the current property owner Empire Diversified Energy, LLC were found to be in compliance with all requirements established in the final remedy decision, and the ICs and ECs in place continue to function as intended to ensure long-term protectiveness.

Attachments:

Figure 1: Geospatial map for Empire Diversified Energy LLC (Formerly Koppers, Inc.)

Figure 2: Temporary Storage Tank T-1 for recovered DNAPL before off-site transport and disposal.

Figure 3: One of the perch groundwater recovery wells (RW-4) with the trailer housing the standalone groundwater treatment system that became active in April 2021.

Figure 4: An image showing the inside of the trailer with the groundwater treatment system tanks.

Figure 5: Another image from the inside of the trailer with perched groundwater treatment system components.

Figure 6: An open surface area of the former plant covered with what appears to be clean fill (smokestacks and process towers of the former Mountain State Carbon site in the background).

Figure 7: Looking southwest at the former aeration basins.

Figure 8: Looking north from the south end of the former plant. Flush mounted monitoring well cluster (R-222D, R-222I, R-222S) as well R-313 are in the foreground. Fresh appearance of concrete indicate recency of the flush mounts on the ground.

Figure 9: Looking north with the former aeration basins.

Figure 10: A cluster of monitoring wells (R-216D, R-216I and R-216S) at the southwestern corner of the former plant.

Figure 11: A cluster of monitoring wells (R-208D, R-208I and R-208S) with Ohio River just southwest of the tree-lined embankment.



0 112.5 225 450 675 900 Feet

 United States Environmental Protection Agency

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